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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/600,888 | 08/15/2000 | Kingo Suzuki | P107242-0000 | 4637 |

4372 7590 10/17/2007

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| EXAMINER | |
|---|---|
| TRINH, HOA B | |
| ART UNIT | PAPER NUMBER |
| 2814 | |

| NOTIFICATION DATE | DELIVERY MODE |
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| 10/17/2007 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DCIPDocket@arentfox.com
IPMatters@arentfox.com
Patent_Mail@arentfox.com

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/600,888 | SUZUKI ET AL. | |
| | Examiner | Art Unit | |
| | (Vikki) Hoa B. Trinh | 2814 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *6/28/07* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *7,11 and 13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7,11 and 13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### Claims Status

Claims 7, 11, 13 are pending in the present application.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wegleiter

(6,531,405) in view of Blonder.

Wegleiter (6,531,405) discloses a light emitting diode 18 (fig. 1) comprising a pellet 2, 3, 4 (fig. 1), a major front surface 4 (fig. 1) which is made ofa GaAsP (col. 5, lines 18-28) mixed crystal, characterized in that the major front surface 4 is a rough surface (fig. 1). That all side surfaces (fig. 1) of the pellet are roughened, wherein the rough surfaces are formed with fine projections having a diameter (col. 4, lines 2-5).

However, Wegleiter does not explicitly teach the range for the diameter as claimed. Blonder teaches an analogous device having a diameter or width of the projections (rib structure) 23 (fig. 2) about 3 micrometers which is within the claimed range (col. 4, lines 23,25) for precisely selecting the wavelength of the emitting device (col. 1, lines 60-65).

Therefore, as to claim 7, it would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Wegleiter with the diameter measurement, as taught by Blonder, for the advantage as mentioned in the above.

Note that the process step to treat the pellet with an etching solution pertains to an intermediate process that does not patentably affect the final structure of the device. See MPEP 2113.

1. Claims 7, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wegleiter in view of Blonder, and further in view of Nishiwaki.

Wegleiter (6,531,405) discloses a light emitting diode 18 (fig. 1) comprising a pellet 2, 3, 4 (fig. 1), a major front surface 4 (fig. 1) which is made of a GaAsP (col. 5, lines 18-28) mixed crystal, characterized in that the major front surface 4 is a rough surface (fig. 1). That all side

surfaces (fig. 1) of the pellet are roughened, wherein the rough surfaces are formed with fine projections having a diameter (col. 4, lines 2-5).

However, Wegleiter does not explicitly teach the range for the diameter as claimed.

Blonder teaches an analogous device having a diameter or width of the projections (rib structure) 23 (fig. 2) about 3 micrometers which is within the claimed range (col. 4, lines 23-25) for precisely selecting the wavelength of the emitting device (col. 1, lines 60-65).

Therefore, as to claim 7, it would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Wegleiter with the diameter measurement, as taught by Blonder, for the advantage as mentioned in the above.

Together, Wegleiter in view of Blonder discloses the invention substantially as claimed, as stated in the rejection of claim 7 above, except that the etching agent contains the list of materials as claimed.

Nishiwaki et al. (59085868) teaching an etching agent using an etching agent such as an aqueous solution containing Br2, nitric acid, hydrofluoric acid and acetic acid or I2, nitric acid, hydrofluoric acid and acetic acid for reducing the cost of production. See abstract.

Therefore, as to claim 11, it would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Wegleiter in view of Blonder with an aqueous etching solution containing the claimed compounds, as taught by Nishiwaki et al. (59085868), so as to reduce the cost of making the surfaces of the pellet as claimed.

With respect to claim 13, the teaching of Wegleiter, Blonder and Nishiwaki for the specific concentration range of the nitric acid, hydrofluoric acid, and acetic acid in the etching solution would have been obvious to one skilled in the art at the time the invention was made to

provide a specific range of concentration, since it is prima facie obvious to an artisan for routine experimentation and optimization to create a specific range for the concentration because applicant has not yet established any criticality for the specific range. The courts have concluded that a change in dimension, degree, size, shape, etc. without special functional significance is not patentable. Research Corp. v. Nasco Industries, Inc., 501 F2d 358; 182 USPQ 449 (CA 7), cert. denied 184 USPQ 193; *USLW* 3359 (1974), *In re Rose*, 105 USPQ 137, and *In re Aller et al.*, 105 USPQ 233.

***Response to Arguments***

2. Applicant's arguments with respect to the pending claims have been considered but they are not persuasive.

Applicants' amendment does not overcome the cited references, because under Wegleiter in view of Blonder and further in view of Nishiwaki, the cited references teach all of the limitations as claimed, thereby providing the predictable result. Also, applicants amended a process step in the device claim 7 does not patentably distinguish the cited references, because under MPEP 2113 the intermediate step does not affect the final structure of the device. Thus, the rejection of claim 7 under Wegleiter in view of Blonder is maintained.

The previous Advisory sent on 07/20/2007 had been withdrawn, because the Office Action sent on 05/08/2007 was a Non-Final Office Action.

**Conclusion**

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Vikki Trinh whose telephone number is (571) 272-1719. The Examiner can normally be reached from Monday-Friday, 9:00 AM - 5:30 PM Eastern Time. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Mr. Wael Fahmy, can be reached at (571) 272-1705. The office fax number is 703-872-9306.

Any request for information regarding to the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Also, status information for published applications may be obtained from either Private PAIR or Public Pair. In addition, status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspro.gov. If you have questions

pertaining to the Private PAIR system, please contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

Lastly, paper copies of cited U.S. patents and U.S. patent application publications will cease to be mailed to applicants with Office actions as of June 2004. Paper copies of foreign patents and non-patent literature will continue to be included with office actions. These cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants are referred to the Electronic Business Center (EBC) at http://www.uspto.gov/ebc/index.html or 1-866-217-9197 for information on this policy. Requests to restart a period for response due to a missing U.S. patent or patent application publications will not be granted.

/(Vikki) Hoa B Trinh/
Examiner, Art Unit 2814

/Howard Weiss/
Primary Examiner, Art Unit 2814